

PEFSYS – elementos de barra (“rod elements”) e suas propriedades

Nome do elemento	Cinemática	Nome do material	Nome da geometria da ST e suas propriedades correspondentes
rod_2 (2 nós) rod_3 (3 nós)	Sem grau de liberdade de empenamento	linear_elastic_rod ($\sigma^r = \mathbf{D}_L \varepsilon^r$)	elastic_rod_section $A, I_{11}, I_{22}, I_T, I_{12}, x_G, y_G, x_S, y_S$ (9 propriedades)
		saint_venant_elastic_rod ($\sigma^r = \mathbf{D}_L + \frac{1}{2} \mathbf{D}_Q \varepsilon^r$)	saint_venant_elastic_rod_section $A, I_{11}, I_{22}, I_T, I_{12}, x_G, y_G, x_S, y_S, H_{11}, H_{22}, H_{12}, H_{21}$ (13 propriedades, sendo $H_1 = H_{11} + H_{12}$; $H_2 = H_{21} + H_{22}$)
		simo_elastic_rod ($\sigma^r = \mathbf{D}_L + \frac{1}{2} \mathbf{D}_Q \varepsilon^r$)	simo_elastic_rod_section $A, I_{11}, I_{22}, I_T, I_{12}, x_G, y_G, x_S, y_S, H_{11}, H_{22}, H_{12}, H_{21}$ (13 propriedades, sendo $H_1 = H_{11} + H_{12}$; $H_2 = H_{21} + H_{22}$)
vlasov_rod_2 (2 nós) vlasov_rod_3 (3 nós)	Com grau de liberdade de empenamento	linear_elastic_rod ($\sigma^r = \mathbf{D}_L \varepsilon^r$)	vlasov_elastic_rod_section $A, I_{11}, I_{22}, I_T, I_{12}, x_G, y_G, x_S, y_S, I_\omega$ (10 propriedades)
		saint_venant_elastic_rod ($\sigma^r = \mathbf{D}_L + \frac{1}{2} \mathbf{D}_Q \varepsilon^r$) second order on η^r and κ^r , first order on p and p'	vlasov_saint_venant_elastic_rod_section $A, I_{11}, I_{22}, I_T, I_{12}, x_G, y_G, x_S, y_S, I_\omega, H_{11}, H_{22}, H_{12}, H_{21}$ (14 propriedades, sendo $H_1 = H_{11} + H_{12}$; $H_2 = H_{21} + H_{22}$)
		simo_elastic_rod ($\sigma^r = \mathbf{D}_L + \frac{1}{2} \mathbf{D}_Q \varepsilon^r$) second order on η^r and κ^r , first order on p and p'	vlasov_simo_elastic_rod_section $A, I_{11}, I_{22}, I_T, I_{12}, x_G, y_G, x_S, y_S, I_\omega, H_{11}, H_{22}, H_{12}, H_{21}$ (14 propriedades, sendo $H_1 = H_{11} + H_{12}$; $H_2 = H_{21} + H_{22}$)
		full_saint_venant_elastic_rod ($\sigma^r = \mathbf{D}_L + \frac{1}{2} \mathbf{D}_Q \varepsilon^r$) second order on all deformations	full_vlasov_saint_venant_elastic_rod_section $A, I_{11}, I_{22}, I_T, I_{12}, x_G, y_G, x_S, y_S, I_\omega, \dots$ (42 propriedades)
		full_simo_elastic_rod ($\sigma^r = \mathbf{D}_L + \frac{1}{2} \mathbf{D}_Q \varepsilon^r$) second order on all deformations	full_vlasov_simo_elastic_rod_section $A, I_{11}, I_{22}, I_T, I_{12}, x_G, y_G, x_S, y_S, I_\omega, \dots$ (42 propriedades)